

REMARKS

Claims 13-24 are currently pending. Claims 20-24 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 13-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Welches (U.S. 6,404,655) in view of O'Meara et al. (O'Meara) (U.S. 6,208,540).

Claim 13 has been amended to correct a typographical error.

Reconsideration of the application based on the following remarks is respectfully requested.

Rejection Under 35 U.S.C. § 103(a)

Claims 13-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Welches (U.S. 6,404,655) in view of O'Meara (U.S. 6,208,540).

Claim 13 recites:

A circuit arrangement for aircraft engine controllers for providing or generating a bipolar direct current output signal as a function of at least one pulse-width modulated input signal, comprising: a first driver stage and a second driver stage, the first and the second driver stages being activatable by a pulse-width modulated input signal, and at least one of the first and second driver stages being connected to a step-down converter stage so that, when the first driver stage is activated, a first switching element of the step-down converter stage activates a low-pass device of the step-down converter stage, and, when the second driver stage is activated, a second switching element of the step-down converter stage activates the low-pass device of the step-down converter stage.

Welches is directed to a transformerless three phase power inverter for use in AC distributed power systems, such as pulse width modulated (PWM) inverter generation or conditioning applications (col. 7, ll. 8-13), whereas the pending claims of the present application are directed to "a circuit arrangement for aircraft engine controllers for providing or generating a bipolar direct current output signal as a function of at least one pulse-width modulated input signal," as recited in claim 13.

Applicant believes that the “first driver stage (C1, L1, IGBT1, D7, C3)” and “second driver stage (C2, L2, IGBT2, D8, C4)” that the Examiner refers to in Welches is a DC-DC converter 30, shown in figure 3 and 1. DC-DC converter 30 cannot provide the claimed first driver stage and second driver stage of claim 13 of the present application.

In particular, Welches states that the “DC-DC converter 30 consists of inductors L1, L2, transistors Q7, Q8 [believed to be IGBT1, IGBT2], diodes D7, D8 output capacitors C3, C4 as well as control circuits (not depicted).” (col. 7, ll. 65 to col. 8, ll. 1) “The output of the DC-DC converter 30 goes through an inverter section 40 and a filter section 50 and is output as a 3 phase 4 wire topology 60” (col. 8, ll. 1-3). The DC-DC converter 30 (specifically: C1, L1, IGBT1, D7, C3; C2, L2, IGBT2, D8, C4) does not receive a PWM signal. Rather, the inverter section 40 receives a PWM switching signal (col. 8, ll. 13-15, 32-35).

Accordingly, the DC-DC converter cannot provide “a first driver stage and a second driver stage, the first and the second driver stages being activatable by a pulse-width modulated input signal,” as recited in claim 13. In particular, in Welches, the “output PWM signal is transmitted to the output inverter switches Q1-Q6.” (col. 9, ll. 8-10)

O’Meara, cited only for its alleged disclosure of direct current output, cannot cure the deficiency. Accordingly, the Examiner’s rejection should be withdrawn.

It is respectfully submitted that in any event it would not have been obvious to one of ordinary skill in the art to provide Welches with the O’Meara power supply device (Fig. 1), since the auxiliary power supply device 20 in O’Meara could not be combined with the output in Welches. The auxiliary power supply 20 in O’Meara receives only one phase of a three phase AC (O’Meara, Abstract, Figure 1), whereas Welches has a 3 phase 4 wire topology output (Welches, col. 8, ll. 1-3, figure 3).

Further, Welches teaches away from O’Meara, in that Welches teaches a “Transformerless 3 Phase Power Inverter”, as indicated in the title of the patent and O’Meara teaches an auxiliary powers supply 40 having a single phase transformer 22.

For reasons set forth above, Applicant believes that independent claim 13 is not taught or suggested alone or in combination by Welches and O’Meara. Withdrawal of the

rejection to independent claim 13 under 35 U.S.C. §103 is respectfully requested. As claims 14-19 depend from and incorporate the limitations of claim 13, withdrawal of the Examiner's rejection of these claims is requested as well. As claims 20-24 depend from and incorporate the limitations of independent claim 13, Applicant believes these claims are allowable in dependent form and withdrawal of the Examiner's objection of these claims is requested as well.

CONCLUSION

It is respectfully submitted that the application is in condition for allowance and applicants respectfully request such action.

If any additional fees are deemed to be due at this time, the Assistant Commissioner is authorized to charge payment of the same to Deposit Account No. 50-0552.

Respectfully submitted,

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